

SOME ADDITIONS TO THE ORCHID FLORA
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THE Island of Puerto Rico, the smallest and easternmost of the Greater Antilles, is one of the more thickly populated areas of the world. It has a minimum of undisturbed vegetation and is not particularly rich in orchid species.

The orchids of Puerto Rico have been studied by various well-known taxonomists. Among them are Alfred Cogniaux whose studies were published in conjunction with Ignatius Urban (1903, 1909-10) at the beginning of the century. The collections and writings of Britton and Wilson (1924) comprise the most recent comprehensive taxonomic investigation. Fifty-four genera of orchids with 95 species are reported in their Island flora.

Subsequent exploration by various collectors (Winters, 1949) has brought to light additional orchid species. Some of these are widespread in the West Indies, but have not been reported previously from Puerto Rico. Others are rare in the area. The purpose of this report is to extend the recorded range of the several species to include Puerto Rico. Unless otherwise indicated, the identifications were made by Mr. Charles Schweinfurth.

Basiphyllaea angustifolia Schlter. *Winters 88*, collected Oct. 8, 1955, in late flowering and early fruiting stage. Terrestrial in deep leaf mold over serpentine rock. Maricao Insular Forest, at 2,000 feet altitude. Rare. Formerly known only from Prov. of Matanzas, Cuba.

Cranichis tenuis Reichb. f. *Winters 10*, collected Nov. 11, 1953. Terrestrial in organic accumulation over rocks. Maricao Insular Forest, on lee (dry) side of mountain toward Sabana Grande, at 2,000 feet altitude. Recorded only from Cuba.

Epidendrum cochleatum L. var. **triandrum** Ames. Collected by Rev. Donald Dod along Fish Hatchery Trail, Maricao Insular Forest. Identification by H. F. Winters. Recorded only from southern Florida. See plate 113, Correll, D. S., *Native Orchids of North America*, 399 pp., illus. Waltham, Mass.

Epidendrum jamaicense Lindl. *Winters 17*, collected Sept. 9, 1947, Dec. 17, 1954, epiphytic, Maricao Insular Forest, at 3,000 feet altitude; Nov. 22, 1954, La Mina Recreation Area, Luquillo Mts., at 2100 feet altitude; July 1939, collected by A. G. Kevorkian, Maricao Insular Forest. Also collected by F. H. Sargent No. 355, at El Yunque, on a tree, at 1969 feet altitude, April 10, 1938; and by Claud L. Horn No. 5862, on

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old tree trunks, at 2500 feet altitude, in Maricao Insular Forest, June 1939. Apparently fairly widespread in the West Indies.

Epidendrum oncioides Lindl. var. **gravidum** (Lindl.) A. H. & S. Collected Jan. 9, 1940, by A. G. Kevorkian, Maricao Insular Forest. Recorded from Middle America, from Mexico to Panama and Colombia.

Epidendrum vincentinum Lindl. *Winters 38*, collected Nov. 22, 1954, from slope of Mt. Britton, Luquillo Mts., epiphytic on trees and shrubs, 2900 feet altitude. This species is recorded from several of the West Indies, from Costa Rica, and Peru.

Habenaria strictissima Reichb. f. var. **odontopetala** (Reichb. f.) L. O. Wms. Collected Nov. 27, 1939, by A. G. Kevorkian, Maricao Insular Forest. This species occurs from Mexico to Costa Rica and in Cuba.

Lepanthopsis melanantha (Reichb. f.) Ames. *Winters 48*, collected Dec. 7, 1954, epiphytic along trail to San German from Camp Buena Vista, Maricao Insular Forest, at 3000 feet altitude. Rare. This species has been recorded from Cuba, Santo Domingo, and the west coast of Florida. See plate 99, D. S. Correll, l. c.

Liparis Saundersiana Reichb. f. *Winters 86*, collected Sept. 17, 1955, from Las Mesas near Mayaguez, 1100 feet elevation, terrestrial; Oct. 8, 1955, Maricao Insular Forest, at 2000 ft. altitude; Rev. Donald Dod, Oct. 1, 1955, Maricao Insular Forest. Previously recorded only from Jamaica.

Maxillaria rufescens Lindl. Collected by Rev. Donald Dod, El Verde area Luquillo Mts.; Maricao Insular Forest, at 2900 feet altitude. A widespread species in Central and South America and in the West Indies.

Pleurothallis Ghiesbreghtiana Rich. & Gal. (*P. longissima* Lindl.) *Winters 51*, collected Feb. 22, 1955, saxicolous on exposed mountain ridge, Maricao Insular Forest, at 2500 feet altitude. A species frequent in Middle America and the West Indies.

Polystachya foliosa (Hook.) Reichb. f. *Winters 11*, collected Oct. 8, 1955, epiphytic at base of shrubs. Maricao Insular Forest, at 2000 ft. altitude. An extremely variable species extending through the American Tropics.

Stelis pygmaea Cogn. *Winters 83*, collected in flower and fruit, July 31, 1955, epiphytic along mountain ridge, El Verde area, Luquillo Mts., at 2800 ft. altitude. A little plant confined to the West Indies.

Vanilla barbellata Reichb. f. *Winters 80*, collected July 2, 1955, from several locations in Guanica Forest, terrestrial, with vines clambering over shrubs and trees, sea level to 250 ft. altitude. Identified by Donovan S. Correll. Records of this species are from the Bahamas, Florida, and Cuba. See plate 57, D. S. Correll, l. c.

Vanilla Dilloniana Correll. *Winters 79*, collected Nov. 21, 1954, in fruit, hilltop, Cambalache Experimental Forest; June 28, 1955, common on mountain ridges, Maricao Insular Forest, at 2300 ft. altitude. Terrestrial, with vines clambering over shrubs and trees. Identified by Donovan S. Correll. This species is recorded from Florida, Cuba, and Santo Domingo. See plate 58, D. S. Correll, l. c.

LITERATURE CITED

- BRITTON, N. L., AND P. WILSON. 1924. Scientific Survey of Porto Rico and the Virgin Islands. Botany of Porto Rico and the Virgin Islands. N. Y. Acad. Sci. 5: 180-217.
- COGNIAUX, ALFRED, in URBAN. 1909-10. Symbolae Antillanae. 6: 293-696.
- URBAN, IGNATIUS, AND A. COGNIAUX, in URBAN. 1903. Symbolae Antillanae. 4: 162-184.
- WINTERS, H. F. 1949. Native Orchids of Puerto Rico. American Orchid Society Bulletin 18: 355-361.

GROWTH HABITS OF ARABIS PERSTELLATA

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Since describing *Arabis perstellata* in 1940 (RHODORA 42: 47-48), I have had plants of this species almost continuously under observation, noting growth habit year by year. In the eighth edition of Gray's Manual (Fernald, 1950), this and what was known as *Arabis dentata* T. & G. are included in one species, *A. perstellata* E. L. Br., made up of the "typical" variety and var. *Shortii* Fern. (*A. dentata* (Torr.) T. & G.). In the New Britton and Brown Illustrated Flora (Gleason, 1952), these are maintained as distinct but related species, *A. perstellata* Braun and *A. Shortii* (Fern.) Gl. Neither manual adequately states the habit of growth of *A. perstellata*, the former stating "perennial, with strong branching base and definitely perennial leafy basal offsets"; the latter, with no statement, figures a single erect stem arising terminally from an ill-defined basal rosette.

Flowering plants may have from one to thirty flowering stems, all axillary; the central axis of the plants is a short leafy stem, very short at first, later elongating 1-3 cm. a year, with leaves more closely placed toward apex (Figs. 1, 2). This central or vegetative axis persists throughout the life of the plant. The first spring, the plant (from seed germinating sometime during the previous summer or fall) is a loose rosette of petioled leaves (Fig. 3). The central axis elongates, and by the second spring is 1-2 cm. long, the shriveled petioles of leaves of the previous season persisting near its base (Fig. 4). If flowers are produced the second spring, the flowering stem is definitely lateral, from the axil of a leaf of the previous season (Fig. 2). Year by year, henceforth, the central or vegetative axis elongates, and each